

What is claimed is:

1. A telephone apparatus which can be connected to a digital communication line comprising at least a control channel and a voice channel, comprising:

a dial information storage controller, which sequentially stores dial information which is input from a input unit, into a storage unit and stores predetermined information into the storage unit on detecting a connection signal from the digital communications line and, in case further dial information is input from the input unit, sequentially stores the dial information into the storage unit until the call is released; and

a redial controller, which outputs dial information stored before the predetermined information of the dial information stored into the storage unit, to a control channel of the digital communications line, and on detecting a connection signal from the digital communications line, outputs dial information stored after the predetermined information to a voice channel of the digital communication line.

2. The telephone apparatus according to claim 1, wherein the dial information to be output to the voice channel of the digital communications lines is a DTMF signal.

3. The telephone apparatus according to claim 1, further comprising:

a telephone directory storing dial information and destination information in relation to each other,

wherein, on input from the input unit, the dial information storage controller registers the dial information and destination information to the telephone directory.

4. The telephone apparatus according to claims 1, further comprising:

a dial storage condition storing unit, which stores conditions on whether the dial information storage controller stores the dial information which is input from the input unit, into the storage unit, after a line connection acknowledgement from the digital communications line has been detected.

5. The telephone apparatus according to claims 1, further comprising:

an analog outside line interface, which connects to an analog communications line;

wherein, when outputting dial information from the analog outside line interface, the redial controller does not output dial information stored after predetermined information.

6. The telephone apparatus according to claim 1, wherein:

the predetermined information is mark information generated by the dial information storage unit based on detection of the line connection acknowledgement.

7. A private branch exchange (PBX) to which an extension station can be connected, comprising:

- an extension interface, which connects an extension station;

- a digital outside line interface, which connects to a digital communications line comprising at least a control channel and a voice channel;

- a dial receiver, which receives dial information transmitted from an extension station via the extension interface;

- a first dial signal transmitter, which outputs a dial signal corresponding to the dial information received by the dial receiver to the control channel via the digital outside line interface;

- a second dial signal transmitter, which outputs a dial signal corresponding to the dial information received by the dial receiver to the voice channel via the digital outside line interface;

- a connection signal detector, which detects whether a line connection acknowledgment is received from the digital communications line after an outside line is seized

by the digital outside line interface and dial signal transmission by the dial signal transmitter;

a switch controller, which connects an extension station and the voice channel of the digital communications line once the connection signal detector has detected a connection signal;

a dial information storage controller, which sequentially stores the dial information received on the dial receiver into a storage unit, and once the connection signal detector has detected a connection signal, stores predetermined information into the storage unit, and once the dial receiver has received a dial signal, sequentially stores the received dial information into the storage means until the extension station which transmitted the dial signal releases the call; and

a redial controller, which controls so that, on predetermined input operation on an extension station, dial information stored before predetermined information of the dial information stored by the dial information storage controller will be output to the control channel of the digital communications line by the first dial signal transmitter and that dial information stored after the predetermined information will be output to the voice channel of the digital communications line by the second dial signal transmitter after an acknowledgment from the digital communications line is detected by the connection signal detector.

8. The PBX according to claim 7, wherein:

the second dial signal transmitter converts dial information stored after the predetermined information to a DTMF signal and outputs the DTMF signal to the voice channel of the digital communications line.

9. The PBX according to claim 7, further comprising:

a timing setting unit; which sets a timing of outputting dial information by the second dial signal transmitter;

wherein the redial controller, on detection of an acknowledgment from a digital communications line by the connection signal detector, outputs dial information stored after predetermined information to the voice channel of the digital communications line by the second dial signal transmitter based on the timing set by the timing setting unit.

10. The PBX according to claim 7, further comprising:

a dial storage condition storing unit, which stores the conditions on whether the dial information storage controller stores the dial information received by the dial receiver, into the storage unit, after a line connection acknowledgement from a digital communications line has been detected.

11. The PBX according to claim 7, further comprising:

an analog outside line interface, which connects to an

analog communications line;

wherein, when outputting dial information from the analog outside line interface, the redial controller does not output dial information stored after predetermined information.

12. The PBX according to claim 11, wherein:

in case a predetermined operation is made on an extension station after dial information stored before predetermined information out of the dial information stored by the storage unit is output from the analog outside line interface, the redial controller outputs redial information stored after the predetermined information.

13. The PBX according to claim 7, wherein the predetermined information is mark information generated by the dial information storage unit based on detection of the line connection acknowledgement.

14. A telephone apparatus which can be connected to a digital communication line comprising at least a control channel and a voice channel, comprising:

a dial information storage controller, which sequentially stores dial information which is input from a input unit, into a storage unit and stores predetermined information into the storage unit on detecting a connection signal from

the digital communications line and, in case further dial information is input from the input unit, sequentially stores the dial information into the storage unit until the call is released; and

a redial controller, which outputs dial information stored before the predetermined information of the dial information stored into the storage unit, to a voice channel of the digital communications line, and on detecting a connection signal from the digital communications line, outputs dial information stored after the predetermined information to a voice channel of the digital communication line.

15. The telephone apparatus according to claim 14, wherein the dial information to be output to the voice channel of the digital communications lines is a DTMF signal.

16. The telephone apparatus according to claim 14, further comprising:

a telephone directory storing dial information and destination information in relation to each other,

wherein, on input from the input unit, the dial information storage controller registers the dial information and destination information to the telephone directory.

17. The telephone apparatus according to claims 14, further

comprising:

a dial storage condition storing unit, which stores conditions on whether the dial information storage controller stores the dial information which is input from the input unit, into the storage unit, after a connection signal from the digital communications line has been detected.

18. The telephone apparatus according to claims 14, further comprising:

an analog outside line interface, which connects to an analog communications line;

wherein, when outputting dial information from the analog outside line interface, the redial controller does not output dial information stored after predetermined information.

19. The telephone apparatus according to claim 14, wherein:

the predetermined information is mark information generated by the dial information storage unit based on detection of the connection signal.